IN THE CLAIMS:

The following listing supercedes all previous listings.

1. (currently amended) An image transport engine or method, ~~embodied within a computer-readable medium,~~ for processing a sequence of images comprising raw image data, said method including processing said raw image data to generate and output processed image data, said method comprising:

receiving raw image data,

generating image transport data from the raw image data;

~~by~~ deploying image processing functions as ~~onto~~ a multiprocessor platform ~~generating input image data in order to provide processed output image data, said engine~~ configured in accordance with ~~being configured for operation according to~~ a software data partitioning model and includes partitioning the image transport data into ~~that partitions the images of the~~ a sequence using time-stamped data packets,

wherein said model ~~being~~ comprises ~~formed of~~ a plurality of software modules linked by oriented connections associated to each module ~~the modules~~ through ports, wherein at least one of the modules is ~~being~~ configured for activating a respective, attached one of said image processing functions, for performance that temporally overlaps at least one of receiving and transferring out a packet of said time-stamped data packets that, correspondingly, is to be, or has been, subject to, image processing of the respective, activating module.

2. (currently amended) The engine of claim 1, wherein the step of deploying includes that each module manages data transfers and synchronization.

3. (currently amended) The engine of claim 2, wherein the step of deploying includes that each of the plurality of modules comprising the engine exchange information by means of respective ports, includes that the plurality of ~~said~~ modules includes ~~including 1)~~ a source module for receiving raw image data from a raw image data input terminal, and ~~responsible for~~ generating the time-stamped data packets from the raw image data in accordance with ~~and~~ a time reference data structure to locate ~~that~~

locates every image data packet of the image sequence, 2) said modules additionally including at least one sink module for receiving saidthe processed time-stamped data packets, which sink module may include a fully processed data output terminal for outputting fully processed data from the engine output image data, fully processed output image data, and 3) said modules also including non-source/non-sink ordinary modules connected between the source module and the at least one sink module in such a manner that the image data flows in one direction only and in an a-cyclic manner, each of the non-source/non-sinkordinary modules having respective ones of said ports such that data packets may only exit a source module port, and said data packets may only enter a sink module, wherein, with respect to said model, the source module has no input port, and the sink modules has no respective output ports.

4. (currently amended) The engine of claim 3, wherein, among the oriented connections are those that are one-way connections, said one-way connections being specialized in the transfer of image data packets, not raw image data.

5. (currently amended) The engine of claim 4, wherein the time reference data structure locates the image data packets usingwith respect to an image index in the image sequence and usingwith respect to a data packet position within a current image.

6. (currently amended) The engine of claim 3 or 5, wherein the source module partitions raw image input data into data packets that are data slices referred to as image strips, an each image strip comprising being a packet of consecutive ones of image lines, parallel to the image lines, where the data arriving along said lines is formed of pixels that are to be processed, and wherein thesaid engine isbeing configured to enable an image strip of said image strips to overlap another of said image strips.

7. (currently amended) The engine of claim 6, wherein said image strip includeshaving an active area, and further includes said image strips having overlapping areas located on either side of said active area.

8. (currently amended) The engine of claim 7 for use as a distributed for programming a distributed application configured for transmitting ones of said image strips with overlapping areas between emitting modules and receiving modules, and further configured for adjusting a difference between an instant of production of image strips by a module and an instant of emission of the produced image strips, and also configured for adjusting a difference between an instant of reception of image strips by a module and an instant of processing of the received image strips, the adjustments being made for optimal overlapping between data transfer and data processing.

9. (currently amended) The engine of claim 5, wherein the source module partitions raw image input data into data packets that are data slices referred to as image strips, an image strip being a packet of consecutive ones of image lines, parallel to the image lines, the data arriving along said lines formed of pixels that are to be processed, wherein thesaid engine isbeing configured to enable an image strip of said image strips to overlap another of said image strips, and wherein said time reference data structure locates image strips with respect to the current image index in the sequence and with respect to the image strip position within the current image, the oriented connections insuring repeated transfers of successive image strips together with synchronization information, said modules repeatedly receiving, processing and transmitting the image strips.

10. (currently amended) The engine of claim 2, wherein the engine model comprises one the following types of oriented connections between two ports: a pipe line connection that is a point to point connection, which transfers consecutive image strips; a [1/n]-scatter connection that is a point to point connection belonging to a group of n connections all issued from a common output port, which transfers one image as n image strips; a [1/n]-gather connection that is a point to point connection comprising a group of n connections all reaching a common input port, which gathers n image strips in transferring one image comprised of the gathered image strips.

11. (currently amended) The engine of claim 10, <u>further including configurations</u> ~~configured~~ for task partitioning and/or data partitioning among structures task-partitioned using pipe line connections, wherein said image processing functions are applied <u>consecutively</u> ~~one after the other~~ along a physical data path linking the involved modules, each <u>of the</u> involved module<u>s</u> activat<u>es</u>~~ing~~ a given task for all the image strips.

12. (currently amended) The engine of claim 10, <u>further including</u> <u>configurations</u>~~configured~~ for task partitioning and/or data partitioning<u>,</u> which <u>partitionings utilize</u>~~utilizes~~ <u>a</u> scatter/gather type of data partitioning using a [1/n]-scatter connection that distributes an image among n destination modules, according to image strip-indices with possible spatial shifts between image strips and time delay adjustments, and/or using a [1/n]-gather connection that gathers n image strips in a destination module according to image strip-indices.

13. (currently amended) The engine of claim 10, <u>including a configuration by</u> ~~wherein the model is configured with~~ data partitioning structures that use pipeline connections, a property of the source module being to convey two synchronous output streams as if they were emanating from two distinct parts of images, and gathering said two parts of images within a sink image processing function to push the final result towards a targeted terminal port external to the model.

14. (currently amended) A medical examination imaging apparatus<u>, comprising:</u> ~~having~~ means for acquiring medical digital image data<u>,</u>
<u>means for implementing the</u> ~~and using said~~ image transport engine according to claim 1 <u>for accessing the</u> ~~having access to said~~ medical digital image data,<u> and</u>
~~said apparatus having~~ display means for displaying the medical digital images and the processed medical digital images.

15. (canceled)